

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A battery comprising:

an electrode assembly comprising a positive electrode plate, a negative electrode plate and a separator wound or laminated together, core materials of the positive and negative electrode plates being bared at ends of the electrode assembly;

a cylindrical outer case having a bottom connected to an end face of the electrode assembly to serve as a battery terminal;

electrolyte impregnated in the electrode assembly; and

a lid connected to another end face of the electrode assembly and attached to the outer case with a sealer and an insulator interposed therebetween,

wherein the lid includes a connecting part in one piece therewith that engages with and connects a bottom part of an outer case of another battery to be connected, a hole configured to receive the electrolyte into the battery, and a safety structure that releases gas in response to a build-up of internal pressure, and the lid directly contacts and is directly welded to the bared portion of the core material of one of the electrode plates of the electrode assembly.

2. (Currently Amended) A battery comprising:

an electrode assembly comprising a positive electrode plate, a negative electrode plate and a separator wound or laminated together, core materials of the positive and negative electrode plates being bared at ends of the electrode assembly;

a cylindrical outer case having a bottom connected to an end face of the electrode assembly to serve as a battery terminal;

electrolyte impregnated in the electrode assembly; and

a lid connected to another end face of the electrode assembly and attached to the outer case with a sealer and an insulator interposed therebetween,

wherein the lid includes a hole configured to receive the electrolyte into the battery and a safety structure that releases gas in response to an increase in internal pressure, and the lid directly contacts and is directly welded to the bared portion of the core material of one of the electrode plates of the electrode assembly to serve as a first current collector plate.

3. (Previously Presented) The battery according to claim 1, wherein the lid is welded to the bared portion of the core material of one of the electrode plates of the electrode assembly to serve as a current collector plate.

4. (Previously Presented) The battery according to claim 2, wherein the lid is provided with a projection protruding to the inside of the outer case, and is welded to the bared portion of the core material of the electrode plate of the electrode assembly with the projection making tight contact therewith.

5. (Previously Presented) The battery according to claim 1, wherein the outer case and the lid are joined together by forming a fixing groove in the outer case, with a gasket being interposed between an open end of the outer case and a cylindrical portion of the lid.

6. (Previously Presented) The battery according to claim 1, wherein the safety structure comprises a continuous or discontinuous cut in the lid.

7. (Previously Presented) The battery according to claim 1, wherein a current collector plate is welded to the bared portion of the core material of one of the electrode plates of the electrode assembly, and after placing the electrode assembly in the outer case, the current collector plate is welded to the bottom of the outer case.

8. (Previously Presented) The battery according to claim 1, wherein the outer case is provided with an inwardly protruding projection, which is welded to the bared portion of the core material of one of the electrode plates of the electrode assembly in the outer case in tight contact therewith.

9. (Previously Presented) The battery according to claim 1, wherein the lid comprises a clad plate comprising a plurality of plate materials, wherein one of the plate materials which faces the outer case is resistant to the electrolyte.

10. (Previously Presented) A battery pack of a plurality of the batteries according to claim 1, the bottom of the outer case of one battery being fitted into the connecting part of the lid of the other battery and their mating parts being welded together.

11. (Previously Presented) The battery according to claim 3, wherein the lid is provided with a projection protruding to the inside of the outer case, and is welded to the bared portion of the core material of the electrode plate of the electrode assembly with the projection making tight contact therewith.

12. (Previously Presented) The battery according to claim 2, wherein the outer case and the lid are joined together by forming a fixing groove in the outer case, with a gasket being interposed between an open end of the outer case and a cylindrical portion of the lid.

13. (Previously Presented) The battery according to claim 2, wherein the safety structure comprises a continuous or discontinuous cut in the lid.

14. (Previously Presented) The battery according to claim 2, wherein a second current collector plate is welded to the bared portion of the core material of one of the electrode plates of the electrode assembly, and after placing the electrode assembly in the outer case, the second current collector plate is welded to the bottom of the outer case.

15. (Previously Presented) The battery according to claim 2, wherein the outer case is provided with an inwardly protruding projection, which is welded to the bared portion of the core material of one of the electrode plates of the electrode assembly in the outer case in tight contact therewith.
16. (Previously Presented) The battery according to claim 2, wherein the lid is formed of a clad plate comprising a plurality of plate materials, wherein one of the plate materials which faces the outer case is resistant to the electrolyte.
17. (Previously Presented) A battery pack of a plurality of the batteries according to claim 3, the bottom of the outer case of one battery being fitted into the connecting part of the lid of the other battery and their mating parts being welded together.
18. (Previously Presented) The battery according to claim 1, wherein the lid comprises a cylindrical portion, integrally formed in the lid, which is shaped to receive and connect to a bottom of another battery.
19. (Previously Presented) The battery according to claim 2, wherein the lid comprises a cylindrical portion, integrally formed in the lid, which is shaped to receive and connect to a bottom of another battery.